

This Page Is Inserted by IFW Operations
and is not a part of the Official Record

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

IMAGES ARE BEST AVAILABLE COPY.

**As rescanning documents *will not* correct images,
please do not report the images to the
Image Problem Mailbox.**

WHAT IS CLAIMED IS:

1. An information broadcasting method characterized in that said broadcasting method has: an information transmitting means for adding, to the information to be broadcast, the information specifying the spots or areas to which the information broadcast is to be transmitted, and then transmitting the information to be broadcast, and; an information receiving means for retrieving the first information that specifies the spot or area where the vehicle currently exists, or the spots or areas where the vehicle is likely to exist in the future, retrieving the second information that specifies the spots or areas to which the information added to received information is to be transmitted, comparing the first information and the second information, selecting received information on the basis of the results, and displaying the selected information.

2. An information broadcasting method characterized in that said broadcasting method has: an information transmitting means for adding, to the information to be broadcast, the information specifying the spots or areas to which the information broadcast is to be transmitted, and the information specifying the effective time-of-day/available hours of the information to be broadcast, and then transmitting the information to be broadcast, and;

an information receiving means for retrieving the first information that specifies the spot or area where the vehicle currently exists, or the spots or areas where the vehicle is likely to exist in the future, retrieving the
5 second information that specifies the spots or areas to which the information added to received information is to be transmitted, retrieving the third information that specifies the effective time-of-day/available hours corresponding to the spot or area where the vehicle
10 currently exists, or corresponding to the spots or areas where the vehicle is likely to exist in the future, retrieving the fourth information that specifies the effective time-of-day/available hours of the information added to received information, comparing the first
15 information and the second information, comparing the third information and the fourth information, selecting received information on the basis of the results, and displaying the selected information.

3. An area specifying means characterized in that in
20 the broadcasting methods set forth in Claims 1 and 2 above, said specifying means segments all information transmission destinations into areas not overlapping each other, and then specifies the intended area(s) by designating the segmented destinations.

25 4. An area specifying means characterized in that in

the broadcasting methods set forth in Claims 1 and 2 above, said specifying means defines the desired areas and then specifies the intended area(s) by designating the defined areas.

5. An information selection and output method characterized in that in the broadcasting methods set forth in Claims 1 and 2 above, said selection and output method enables the determination of whether or not the received information is to be selected and whether or not the received information is to be displayed.

6. An information selection and output method characterized in that in the broadcasting methods set forth in Claims 1 and 2 above, said selection and output method enables prioritization between multiple received sets of information and then output of the received information in the defined order of priority or output of the received information and the information relating to the prioritization of the received information.

7. A broadcast transmitting hardware system characterized in that: said system has equipment for entering the information specifying the information transmission destination spots or areas, equipment for adding spot or area specifying information to the information to be broadcast, and equipment for transmitting the information to be broadcast, and; the

system transmits information in accordance with Claims 1, 3, and 4 above.

8. A broadcast receiving hardware system characterized in that: said system has equipment for receiving information, equipment for retrieving the information specifying the spot or area where the vehicle currently exists, or the spots or areas where the vehicle is likely to exist in the future, equipment for retrieving the spot or area specifying information that has been added to received information, equipment for comparing the spot or area specifying information and selecting only the necessary and appropriate information, and equipment for displaying the selected information, and; the system displays received information in accordance with Claims 1, 5, and 6 above.

9. A broadcast transmitting hardware system characterized in that: in addition to the equipment mentioned in Claim 7 above, said system has equipment for entering the information specifying the effective time-of-day/available hours of the information to be broadcast, and equipment for adding the effective time-of-day/available hours specifying information to the information to be broadcast, and; the system transmits information in accordance with Claims 2, 3, and 4 above.

10. A broadcast receiving hardware system

characterized in that: in addition to the equipment mentioned in Claim 8 above, said system has equipment for retrieving the information that specifies the time-of-day or available hours corresponding to the spot or area
5 where the vehicle currently exists, or the spots or areas where the vehicle is likely to exist in the future, equipment for retrieving the information that specifies the effective time-of-day or available hours of the information that has been added to received information,
10 and equipment for comparing the spot or area specifying information, and; the system displays received information in accordance with Claims 2, 5, and 6 above.

11. A broadcast receiving hardware system characterized in that in Claims 8 and 10 above, said system
15 is provided with receiving equipment that has a high sensitivity in the zenithal direction and receives broadcasts from digital radio communications satellites positioned in the zenithal direction.

12. A mobile body location information transmission
20 system characterized in that: said system regards the traveling route of a mobile body as the information transmission spot and sets the effective time-of-day or available hours of information on the basis of scheduled time of day present at the spot on the traveling route of
25 the mobile body, and; in Claims 9 and 10 or 11 above, the

system selects and displays information according to the particular location of a mobile body and the temporal relationship with respect to the mobile body.

13. An event information transmission system
5 characterized in that: the range of influence of the event occurring in an area is specified as the information transmission destination areas, then the duration of the corresponding event is set as the available hours of information, and information is selected and transmitted
10 according to the particular influence relationship with respect to an event, pursuant to Claims 9 and 10 or 11 above.

14. Traffic information editing equipment
characterized in that said equipment has a means by which the regulation information shown as road signs and road
15 markings in detail, static cautionary information for specific zones on the road (hereinafter, these two types of information are referred to collectively as road regulation information), and the event-associated traffic limit and cautionary information occurring in real time
20 (hereinafter, this type of information is referred to as event regulation information) can be entered by specifying the location, direction, period, and other conditions required for the presentation of information, and a means for storing the above-mentioned road regulation
25 information and event regulation information (hereinafter,

both types of information are referred to collectively as traffic regulation information).

15. An information providing system characterized in that: said system comprises the traffic information editing equipment set forth in Claim 14 above, a communications base station that retains all or part of the traffic regulation information stored within the traffic information editing equipment, a vehicle, and a means for communicating between the communications base station and the vehicle, and; the vehicle mentioned above has a means for receiving traffic regulation information from the communications base station and presenting the information to the persons in the vehicle.

16. An information providing system characterized in that inside the vehicle set forth in Claim 15 above, said system has absolute location measuring equipment, a means for deriving the traveling direction of the vehicle from absolute location information, a means for acquiring the current time of day, a means for deriving the traveling speed of the vehicle, a storage means for retaining road regulation information, and a means for presenting the corresponding road regulation information to the persons in the vehicle under the specified information-providing conditions of location, direction, period, and the like, or a means for calculating the timing of information

presentation and presenting the corresponding road regulation information to the persons in the vehicle in the calculated timing.

17. An information providing system characterized in that: said system comprises the traffic information editing equipment set forth in Claim 14 above, a communications base station that retains all or part of the traffic regulation information stored within the traffic information editing equipment, a vehicle equipped with absolute location measuring equipment, and a narrow-area radio communications means for communicating between the communications base station and the vehicle, and; the above-mentioned vehicle equipped with absolute location measuring equipment has a means for deriving the traveling direction of the vehicle from absolute location information, a means for acquiring the current time of day, a means for deriving the traveling speed of the vehicle, a means for receiving traffic regulation information from the communications base station, a storage means for retaining road regulation information, and a means for presenting the corresponding road regulation information to the persons in the vehicle under the specified information-providing conditions of location, direction, period, and the like, or a means for calculating the timing of information presentation and presenting the

corresponding road regulation information to the persons in the vehicle in the calculated timing.

18. An information providing system characterized in that said system comprises the traffic information editing
5 equipment set forth in Claim 14 above, a communications base station that retains all or part of the traffic regulation information stored within the traffic information editing equipment, a vehicle equipped with absolute location measuring equipment, and a means for
10 connecting the communications base station and the vehicle via bi-directional mobile communications; the above-mentioned communications base station has a means for selectively extracting traffic regulation information from the information that has been received from the
15 vehicle, and then transmitting the extracted information to the vehicle, and; the vehicle equipped with absolute location measuring equipment has a means for deriving the traveling direction of the vehicle from absolute location information, a means for acquiring the current time of day,
20 a means for deriving the traveling speed of the vehicle, a means for transmitting the absolute location, traveling direction, and vehicle type information of the vehicle, a means for receiving traffic regulation information from the communications base station, a storage means for
25 retaining the traffic regulation information, and a means

for presenting the corresponding traffic regulation information to the persons in the vehicle under the specified information-providing conditions of location, direction, period, and the like, or a means for calculating the timing of information presentation and presenting the corresponding traffic regulation information to the persons in the vehicle in the calculated timing.

19. An information providing system characterized in that said system comprises the traffic information editing equipment set forth in Claim 14 above, a communications base station that retains all or part of the traffic regulation information stored within the traffic information editing equipment, a vehicle equipped with absolute location measuring equipment, and a means for communicating from the communications base station to the vehicle by multi-channel broadcasting; the above-mentioned communications base station has a means by which the traffic regulation information retained within the base station is sorted on the basis of the location, direction, period, and other information-providing conditions specified using the traffic information editing equipment, then allocating the information to each channel, and transmitting the information, and; the vehicle equipped with absolute location measuring equipment has a means for deriving the traveling direction of the vehicle

from absolute location information, a means for acquiring the current time of day, a means for deriving the traveling speed of the vehicle, a means for receiving information, a means by which the traffic regulation information

5 transmitted from the communications base station can be received by changing the current channel according to the particular absolute location, traveling direction, and type of vehicle, a means for retaining the corresponding traffic regulation information, and a means for presenting

10 the corresponding traffic regulation information to the persons in the vehicle under the specified information-providing conditions of location, direction, period, and the like, or a means for calculating the timing of information presentation and presenting the

15 corresponding traffic regulation information to the persons in the vehicle in the calculated timing.

20 20. The information providing system set forth in Claims 17, 18, and 19 above; wherein said system is characterized in that the traffic information editing equipment has a storage means for retaining the version of traffic regulation information, and that the vehicle has a storage means for retaining internally the traffic regulation information that has been acquired beforehand or was received before, a storage means for retaining the

25 version of the traffic regulation information, and a means

for comparing this version and the version of the latest traffic regulation information that was acquired through communications, and if both versions differ, replacing the vehicle-stored traffic regulation information with the latest information.

21. The information providing system set forth in Claims 15, 16, 17, 18, 19, and 20 above; wherein said system is characterized in that the means for presenting traffic regulation information to the persons in the vehicle is further provided with either a visual display means or an audio notification means, or both, and a means for selecting whether traffic regulation information is to be presented.

22. An information broadcasting method characterized in that an information delivering method and an information receiving method are contained in said broadcasting method; wherein the information delivering method comprises the step of, prior to the broadcasting of information, adding to the information broadcast the information relating to the spot of the information transmission source, the distance herefrom, and the route hereto, and the step of broadcasting the information, and; the information receiving method comprises the step of calculating the route and the distance from the information specifying the current spot of the vehicle and from the

spot information of the information transmission source that has been added to the delivered information, the step of comparing the calculated route and the route to the information transmission source that has been added to the delivered information, the step of comparing the calculated distance and the distance to the information transmission source that has been added to the delivered information, and the step of receiving only the necessary information on the basis of comparison results.

23. An information receiving hardware system that receives information to which the information relating to the spot of the information transmission source, the distance herefrom, and the route hereto, has been added; wherein the receiving hardware system has the capabilities to calculate the route and the distance from the information specifying the current spot of the vehicle and from the spot information of the information transmission source that has been added to the delivered information, to compare the calculated route and the route to the information transmission source that has been added to the delivered information, to compare the calculated distance and the distance to the information transmission source that has been added to the delivered information, and to receive only the necessary information on the basis of comparison results.

24. An information providing scheme in which the information provider creates the optimum independent information beforehand for each situation of the user, then adds the user's situation information to the corresponding broadcast information that has been created, and delivers the broadcast information with the user's situation information added.

25. An information providing scheme characterized in that the user's situation information in Claim 24 above denotes the position of the user.

26. An information providing scheme characterized in that the user's situation information in Claim 24 above denotes either the overall width, overall height, and overall length of the vehicle, or the type of engine of the vehicle, or the light-duty/medium-duty/heavy-duty classification of the vehicle.

27. An information providing scheme characterized in that the user's situation information in Claim 24 above denotes the location or railway line of the train.